

to be fitted in the joint member 63, as shown in FIG. 8. Further, in the structure shown in FIG. 7 where a boss 65 is provided in place of a joint member 63, the light emission element 47 and the light receive element 48 may be engaged with the boss 65, as shown in FIG. 9.

In the structure as described above, the light emission surface of the light emission element 47 is closer to the light receive surface of the light receive element 48 than in the above-mentioned structure, so that transmission losses of light can be reduced much more. Therefore, the sizes of the elements used for transmitting and receiving light can further be reduced, and the output of light from the light emission element 47 can also be reduced much more.

In the embodiments as described above, explanation has been made to cases in which transmission and receipt of image signals are carried out with use of light between the apparatus body 2 and the display unit 3. However, the present invention is not limited to these embodiments, but the transmission and receipt of image signals may be performed with use of electro-magnetic waves between the apparatus body 2 and the display unit 3. In this manner, also, transmission and receipt of image signals can be performed in a cordless manner. In this case, the inner hole of the boss 44 and the inner hole of the joint member 63, forming a communication path for electromagnetic waves, should be provided with magnetic shields to prevent influences on other electronic devices.

Note that the present invention is not limited to a portable computer but is applicable to other portable electronic apparatuses such as a word processor and the likes.

Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details and representative embodiments, shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims and their equivalents.

I claim:

1. A portable electronic apparatus comprising:

a first unit;

a second unit rotatably connected with the first unit through a hinge portion;

a cylindrical joint member arranged to be coaxial with a rotation center axis of the hinge portion and rotatably supporting the second unit with respect to the first unit, the joint member having one end portion projecting into the first unit and another end portion projecting into the second unit, the joint member defining a communication path which extends to be coaxial with the rotation center axis of the hinge portion and has one end communicating with an inner space of the first unit and another end communicating with an inner space of the second unit;

a light emission element provided in the first unit for emitting an optical signal to the second unit through the communication path; and

a light receive element arranged in the second unit so as to face the light emission element through the communication path for receiving the optical signal from the light emission element.

2. A portable electronic apparatus according to claim 1, wherein the joint member includes shield means for shielding the optical signal passing through the communication path from external noise.

3. A portable electronic apparatus according to claim 1, wherein the light emission element is provided so as to face

one end of the communication path, and the light receive element is provided so as to face another end of the communication path.

4. A portable electronic apparatus according to claim 1, wherein the light emission element is fitted in the end of the joint member, and the light receive element is fitted in another end of the joint member.

5. A portable electronic apparatus comprising:

an apparatus body;

a display device rotatably connected with the apparatus body through a hinge portion, and including display means for displaying an image;

a cylindrical joint member arranged to be coaxial with a rotation center axis of the hinge portion and rotatably supporting the display device with respect to the apparatus body, the joint member having one end portion projecting into the apparatus body and another end portion projecting into the display means, the joint member defining a communication path which extends to be coaxial with the rotation center axis of the hinge portion and has one end communicating with an inner space of the apparatus body and another end communicating with an inner space of the display device;

a light emission element arranged in the apparatus body, for emitting an optical signal in the form of image data to the display device through the communication path; and

a light receive element arranged in the display device so as to face the light emission element through the communication path for receiving the optical signal from the light emission element.

6. A portable electronic apparatus according to claim 5, wherein the display device has a hollow support leg, the apparatus body has a support portion for rotatably supporting the support leg, and the joint member is provided so as to bridge the support leg and the support portion.

7. A portable electronic apparatus according to claim 5, wherein the display device has a hollow support leg, the apparatus body has a support portion for rotatably supporting the support leg, and the projecting portion projects from the support leg into the support portion and is rotatably engaged with the support portion around the rotation center axis.

8. A portable electronic apparatus according to claim 5, wherein the joint member includes shield means for shielding the image signal passing through the communication path from external noise.

9. A portable electronic apparatus according to claim 5, further comprising circuit means arranged in the apparatus body for supplying the image data to the light emission element, and

conversion circuit means provided in the display device for converting the optical signal received by the light receive element into the image signal and for supplying the image signal to the display means.

10. A portable electronic apparatus according to claim 5, further comprising circuit means provided in the apparatus body for supplying the image data to the light emission element, and

conversion circuit means provided in the display device for converting the optical signal received by the light receive element into the image signal, and for supplying the image signal to the display means.

11. A portable electronic apparatus comprising:

a first unit;

a second unit rotatably connected with the first unit through a hinge portion;